

**Survey of Enforceable Policies Contained in the Laws of the State of  
Louisiana Applicable to EPA Specified Management Measures for  
Sources of Nonpoint Pollution**

by Erinn Wilezynski  
Jim Wilkins  
Louisiana Sea Grant Legal Program  
Louisiana State University at Baton Rouge  
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## I. INTRODUCTION

The Coastal Zone Management Act of 1972 (CZMA) established a program under which the states and territories were to voluntarily develop comprehensive programs to manage coastal resources. Federal money was granted to states and territories that had established enforceable regulations to resolve conflicts between coastal development and resource management. In November of 1990, Congress went a step further and enacted the Coastal Zone Act Reauthorization Amendments of 1990. One of the major concerns of these amendments was the impact of nonpoint source pollution on coastal areas. As directed by 16 U.S.C.A. § 1455b, "Protecting Coastal Waters", all states with approved coastal zone management programs must develop and submit to EPA for approval comprehensive Coastal Nonpoint Pollution Control Programs. This task is to be performed by state coastal zone and state water quality agencies in a coequal role.

Even before this mandated change in the state's coastal programs, the federal Clean Water Act addressed nonpoint source pollution control. In 1987, Congress amended the Clean Water Act, by enacting Section 319, which established a national program to control nonpoint sources of pollution. Section 319 addresses state water management programs and provides for grants to states whose nonpoint source pollution program or partial program has been approved by the Environmental Protection Agency. However, the national nonpoint source pollution program does not reduce existing funding to the states who decline to implement a state nonpoint source pollution program, as do the more stringent standards of the coastal nonpoint source pollution program.

In the coastal zone nonpoint source pollution program, the states at a minimum must implement management measures in conformity with the guidance objectives set out in the federal Coastal Zone Management Act.<sup>1</sup> The management measures must include a number of

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<sup>1</sup> 16 U.S.C.A. § 1455b(g).

considerations.<sup>2</sup> Land uses that cause or contribute to significant degradation of coastal waters, and critical coastal areas must be identified. Management measures applicable to the identified land uses, technical assistance to local governments and the public, and opportunities for public participation must be established. The program must also develop administrative coordination within the state, and determine modifications of the state coastal zone boundary as necessary to implement the program.

The underlying theme of these new management programs is that enforceable policies must be adopted by the state. The federal method to force state action will be to withhold federal grant money from the state's coastal program and water pollution control program at increasing percentages annually for every year a state fails to develop an approved nonpoint source pollution program. So Louisiana, in order to maintain a coastal program, must comply with Congress' demand for EPA and NOAA approved, enforceable policies to reduce nonpoint source pollution in the coastal zone. Land uses that have been identified as contributing to coastal nonpoint source pollution are: agriculture, forestry, marinas, urban, runoff, hydromodification, and damage to wetlands, riparian areas, and vegetated treatment systems. Additionally, monitoring and tracking techniques to accompany management measures are designated as an integral part of controlling nonpoint source pollution.

### **The Relationship of §401 of the Clean Water Act to Nonpoint Source Pollution**

Section 401 of the Clean Water Act requires all applicants for a federal license or permit for conducting any activity which may result in any discharge to the navigable waters shall provide to the federal agency a certification from the state in which the discharge originates... that any such discharge will comply with the water quality standards of that state.<sup>3</sup> No federal license or permit may be granted until this certification has been obtained or waived. Therefore denial of the

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<sup>2</sup> 16 U.S.C.A. § 1455b(b).

<sup>3</sup> 33 U.S.C.A. § 1341 (a)(1).



certification operates as a veto power over projects carried out under federal license or permit. There has been debate concerning whether §401 applies to nonpoint source pollution or is limited to point sources.<sup>4</sup> A plain reading of the language of the statute and examination of the legislative history indicates that §401 does apply to nonpoint source pollution. If §401 is interpreted to apply to nonpoint source pollution, the state will have vast authority to implement many of the management measures described in the EPA guidance document specifying management measures for sources of nonpoint pollution in coastal waters. Many if not most significant projects in coastal waters will require federal permits such as those under §404 of the Clean Water Act or §10 of the Rivers and Harbors Act. Thus far Louisiana has not exercised its full authority under §401 and does not appear to be ready to do so. However, in reading through this document one should bear in mind the potential that §401 has for controlling nonpoint source pollution. Since the state has not chosen to interpret this statute broadly, we will not list §401 under the statewide enforceable policies except to give an example of how it could be used. However, all statewide enforceable policy sections should be read to include the possibility of §401 application.

#### **Federal Consistency Under the Coastal Zone Management Act**

Federal Consistency Authority, like §401 Water Quality Certification Authority, is granted by federal law, in the Coastal Zone Management Act (CZMA).<sup>5</sup> The CZMA requires:

- 1) Federal agency activity within or outside the coastal zone to be carried out in a manner consistent to the maximum extent practicable with the enforceable policies of approved state coastal management programs;
- 2) Federal agencies undertaking development projects in the coastal zone of a state to insure that the project is to the maximum extent practicable consistent with the enforceable policies of approved state coastal management programs;

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<sup>4</sup> 33 U.S.C.A. §1341(a)(1).

<sup>5</sup>16 U.S.C.A. § 1451-1464, 1456.

3) Activities conducted under a required federal license or permit in or outside the coastal zone affecting any land or water use or natural resource of the coastal zone to comply with the enforceable policies of the state's approved coastal management program and be conducted in a manner consistent with the program;

4) Mineral exploration, development, or production carried out on land leased under the outer Continental Shelf Lands Act and affecting any land or water use or natural resource of the coastal zone to comply with the enforceable policies of the state's approved coastal management program and be carried out in a manner consistent with that program.

The state, by determining whether or not the above categories of activities are consistent with the coastal management programs, has fairly broad authority to affect or modify some of the activities discussed herein which are sources of nonpoint pollution. Hydromodification activities, for example, will almost always require federal permits and therefore must obtain a consistency certification from the state. Some highway projects are federal development projects and would also require consistency determination. The report should be read with this consistency authority in mind. Since it is a hybrid of federal law and state enforceable policies, we chose not to discuss it in each section. However, if exercised to its full potential, federal consistency can have a significant effect on nonpoint source pollution control efforts.

## **II. ENFORCEABLE POLICIES APPLICABLE TO EPA SPECIFIED MANAGEMENT MEASURES**

### **AGRICULTURE**

#### **Erosion And Sediment Control**

The objective of this management measure is to reduce the mass load of sediment reaching waterbodies and to improve water quality and the use of water resources associated with agriculture operations.

Enforceable policies:

*Statewide:*

Louisiana has established soil conservation districts, the purpose of which is to protect and promote health, safety, and the general welfare of the people that have been endangered by improper land use practices.<sup>6</sup> Improper land use practices have led to serious erosion of farm and grazing lands in this state. The statute sets up a state soil and water conservation committee, which has the authority to promulgate such rules and regulations as may be necessary for the conservation of water and soil in this state.<sup>7</sup> The act could provide enforceable policies to implement some of the management measures described in the Environmental Protection Agency's guidance document. The supervisors of the soil conservation districts have the authority to enact land-use regulations. However, land use regulations are introduced as proposed ordinances which must be approved by a two-thirds majority of the land owners. If passed, the regulations are binding on all land owners within the district. The power to enact land use regulations has never been used in any of Louisiana's soil conservation districts. Land owner's approval to limit the use of their land has not been readily forthcoming.<sup>8</sup> Any landowner may file a petition with the supervisors to amend, supplement, or repeal any ordinance adopted by the supervisors under the provisions of this section.

**Facility Waste Water and Runoff from Confined Animal Facility Management**

The goal of this management measure is to greatly reduce the volume of runoff manure and facility water reaching waterbodies from confined animal facilities.

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<sup>6</sup>La. Rev. Stat. Ann. 3 § 1201 et seq.

<sup>7</sup>La. Rev. Stat. Ann. 3 § 1204.

<sup>8</sup>La. Rev. Stat. Ann. 3 § 1209.

Enforceable policies:

*Coastal Zone:*

The Louisiana Department of Wildlife and Fisheries (DWF) regulates mariculture operations in the coastal zone in natural water bodies by issuing permits for a limited number of operations in water bodies that have been impounded under marsh management operations permitted by the Coastal Management Division of the Department of Natural Resources.<sup>9</sup> While the Louisiana State and Local Coastal Resources Management Act's regulations exempt existing aquaculture from permitting requirements,<sup>10</sup> activities associated with mariculture, such as blocking the migration of aquatic organisms, and waste water discharge from point and nonpoint sources are regulated.<sup>11</sup> It would appear then that runoff from aquaculture or mariculture operations could be regulated by the coastal use permitting process. New terrestrial concentrated animal facilities such as feed lots that have a direct and significant impact on coastal waters would also be regulated under the coastal use permitting program.

*Statewide:*

Under the Louisiana Water Control Law, concentrated animal feeding operations and concentrated animal production facilities are treated as point sources, and therefore are regulated.<sup>12</sup> However, to be designated a concentrated animal feeding operation or concentrated animal production facility threshold requirements on the species specific numbers of animals and poundage of animals produced must be met. Some animal feeding operations and animal production facilities with less than the specified number of animals may be determined, on a case

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<sup>9</sup>La. Rev. Stat. Ann. 56 § 579.1.

<sup>10</sup>La. Admin. Code tit. 43 § 1.723(B)(1)(a)(i).

<sup>11</sup>La. Admin. Code tit. 43 § 1.717, 723(A)(2)(vii).

<sup>12</sup>La. Admin. Code tit. 33 § 1 X.301 (C)(3) and (4), (J) and (K).

by case basis, to require a permit based on such factors as the size and location of the operation or facility, the amount and quality of wastes reaching the waters of the state, and the means of conveyance through which pollutants are discharged into waters of the state .<sup>13</sup>

### **Nutrient Management**

The goal of this management measure is to minimize edge-of-field delivery of nutrients and leaching of nutrients from the root zone into waters of the state by developing nutrient budgets for crops, application at proper times and in proper amounts, and considering environmental hazards of the site.

#### **Enforceable policies:**

##### *Statewide:*

Louisiana's Fertilizer Law establishes a statewide fertilizer commission which has the authority to make rules and regulations as they find necessary to address fertilizer sale in Louisiana.<sup>14</sup> The focus of this commission has been on the manufacturing and sale of fertilizers. Strict restrictions have been established addressing contents and labeling of distributed fertilizers. Once a fertilizer is bought, the purchaser is not required to meet any application regulations.

Anhydrous Ammonia that is used as fertilizer is regulated under the Anhydrous Ammonia Law.<sup>15</sup> Under this law, the Liquified Petroleum Gas Commission is created, which has the authority to promulgate rules and regulations governing the storage, utilization, sale and transportation of anhydrous ammonia as fertilizers.<sup>16</sup> The focus of these regulations has also been

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<sup>13</sup>La. Admin. Code tit. 33 § IX.301(J ) and (K).

<sup>14</sup>La. Rev. Stat. Ann. 3 § 1312.

<sup>15</sup>La. Rev. Stat. Ann. 3 § 1354.

<sup>16</sup>La. Rev. Stat. Ann. 3 § 1354.

on regulating dealers and manufacturers. Once the anhydrous ammonia fertilizer has been purchased, application is unregulated.

Agricultural Liming Materials containing calcium or magnesium distributed for use in neutralizing acidity in agricultural soils are regulated under the Agriculture Liming Material Law.<sup>17</sup> This law gives the commissioner of agriculture the authority to adopt any rules and regulations that are deemed necessary to regulate liming materials. Most regulations adopted thus far have been focused on registering those who sell, offer for sale, or distribute agricultural liming materials. Standards set for the content of the materials are set by commissioners, and if it is determined that a substance is harmful to plant growth, a limit on the use of that substance in liming materials will be set. However, once again the focus has not been on standards or restrictions for application.

### **Pesticide Management Measure**

The goal of this management measure is to reduce contamination of surface water and ground water from pesticides by, limiting the use of pesticides, using practices that minimize the movement of pesticides to surface and ground water, and using economic factors in deciding whether to apply pesticides.

#### **Enforceable policies:**

##### *Statewide:*

Louisiana's Pesticide Law establishes a statewide pesticide advisory commission.<sup>18</sup> This commission assists the commissioner of agriculture in the formation of rules and regulations, holding hearings, conducting investigations, and advises the commissioner on all aspects dealing with pesticide control. The ultimate authority to regulate pesticides in Louisiana lies in the hands of the commissioner of agriculture. The focus has been on regulating the manufacturing, sale, and distribution of pesticides. However, application has also been addressed via required

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<sup>17</sup>La. Rev. Stat. Ann. 3 § 1361 et seq.

<sup>18</sup>La. Rev. Stat. Ann. 3 § 3211.

qualifications for applicators.<sup>19</sup> Persons wishing to apply restricted use pesticides, apply commercial pesticides, sell

restricted use pesticides, and engage in agricultural pesticide counseling must pass knowledge and competency examinations established by the commissioner. Violations, such as noncompliance with these examination/certification requirements, may result in the commissioner assessing civil penalties, suspending or revoking any license or certificate, invoking probation, and/or instituting civil proceedings. The commissioner of agriculture's authority to regulate pesticides allows a comprehensive regulatory plan to be developed to minimize the damaging effects of improper pesticide use. Application of restricted use pesticides is regulated under these provisions mainly through certification examinations, however, actual application is regulated in the areas of pesticide waste and water protection.

The Louisiana Pesticide Law directs the commissioner of agriculture to establish a statewide pesticide waste plan.<sup>20</sup> When the commissioner determines that the pesticide concentration in an area is a danger to human health or the environment the commissioner may take mitigation actions. Such actions could include limiting or even prohibiting application of pesticides in the affected area, issuing remedial orders, communicating his determination to any appropriate government agency, or issuing a public determination..<sup>21</sup>

The commissioner is also charged with preventing threats or reasonable expectation of threats to human health or the environment posed by pesticide wastes or concentrations of pesticides in any of the waters of the state.<sup>22</sup> Under this authority the commissioner may issue protective orders limiting or prohibiting the application of pesticides in a particular area and may

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<sup>19</sup>La. Rev. Stat. Ann. 3 § 3243-3280.

<sup>20</sup>La. Rev. Stat. Ann. 3 § 3271.

<sup>21</sup>La. Rev. Stat. Ann. 3 § 3271-3279.

<sup>22</sup>La. Rev. Stat. Ann. 3 § 3301-3310.

issue remedial orders to correct the problem caused by pesticides. The waters of the state are to be monitored

according to a developed plan. This is to be administered by the Department of Agriculture and Forestry.<sup>23</sup> When waters are found to have excessive concentrations of pesticide, the commissioner will determine the appropriate action to be taken to protect human health and the environment.<sup>24</sup> The commissioner has the authority to enforce any actions by seeking injunctive relief to restrain or prevent violations of the commissioner's orders.<sup>25</sup> The regulations allow for monitoring by the commissioner's representatives on any site where commercial applicators have applied pesticides and any soils or waters at the application site.<sup>26</sup>

The Department of Agriculture may enter into cooperative agreements with appropriate government agencies in order to comprehensively regulate pesticides to protect water quality.<sup>27</sup> Independent of these cooperative agreements, the Department of Environmental Quality with their authority to control water pollution may issue compliance and/or enforcement orders to pesticide applicators or any other person whose application of pesticides violates state water quality regulations.<sup>28</sup> So, while the Department of Agriculture has exclusive control over certification requirements for pesticide applicators, the other governmental agencies may participate in pesticide control through cooperative agreements or DEQ may regulate pesticides under its own authority if

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<sup>23</sup>La. Rev. Stat. Ann. 3 § 3303.

<sup>24</sup>La. Rev. Stat. Ann. 3 § 3306.

<sup>25</sup>La. Rev. Stat. Ann. 3 § 3309.

<sup>26</sup>La. Admin. Code tit. 7 § 13151(B)(3)(A) and (F).

<sup>27</sup>La. Rev. Stat. Ann. 3 § 3304.

<sup>28</sup> Personal Communications with Dugan Sabins 6/6/94

pesticides affect waters of the state. The Department of Agriculture's regulatory authority applies to all pesticide application, not just in connection with agriculture.

### **Grazing Management Measures**

The focus of this management measure is to control erosion from range, pasture and other grazing lands in and above the riparian zone by reducing the physical disturbance to sensitive areas. This is intended to reduce the discharge of sediment, animal waste, nutrients, and chemicals to surface waters resulting from domestic livestock grazing.

#### *Enforceable policies:*

This activity is not regulated under Louisiana law in the coastal zone or statewide. Under the Louisiana's State and Local Coastal Resources Management Act, normal agricultural activities are exempt from permitting requirements. Grazing is listed as one the activities falling under normal agricultural activity.

Louisiana's Water Control Law does not apply to any unintentional nonpoint source discharge resulting from or in connection with the production of agricultural products. Under the Louisiana Water Quality Regulations, no permit is required for any introduction of pollutants from nonpoint sources resulting from normal agricultural activities, which includes the grazing of pastures and range lands.

### **Irrigation Water Management**

The goal of this management measure is to reduce pollution of surface waters from irrigation runoff by assuring that the timing and the amount of irrigation water applied matches crop needs. When chemigation (the addition of one or more chemicals to the irrigation water) is used, the management measure also suggests that backflow preventors on wells be used, discharge from the edge of fields be minimized, and deep percolation be controlled.

#### *Enforceable policies:*

##### *Coastal Zone:*

Under the Louisiana State and Local Coastal Resources Management Act normal agricultural activities are exempt from permitting requirements.<sup>29</sup> The activities that are exempt include maintenance and drainage of existing farms, digging of small drainage ditches, and maintenance of existing drainage ditches and farm roads. The Department of Natural Resources' Coastal Management Division interprets the exemption to mean that irrigational flows on existing farms and new irrigational flows established on existing farms are not regulated. However, a sitespecific determination must be made on irrigational flows that connect to water ways beyond the existing farm. In some situations, a permit would be required.<sup>30</sup>

*Statewide:*

This area is covered by the Louisiana Soil and Water Conservation Districts.<sup>31</sup> The purpose of the Soil and Water Conservation Districts is to improve farm and grazing lands while also promoting the health, safety, and general welfare of the people. Irrigation is one agricultural activity listed in the law as a problem area to be addressed. The established districts and supervisors have the power to develop comprehensive plans for conservation of soil resources and for the control and prevention of soil erosion, however, their regulatory authority depends upon the voting approval of two-thirds of the land owners in the district. This authority has never been used to implement land use regulations probably due to the reluctance of landowners to restrict their own rights.

Irrigation flows have not been determined up to this time to be regulated under the Louisiana Water Control Law. The Clean Water Act states that the Administrator of the

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<sup>29</sup>La. Admin. Code tit. 43 § 1.723B(1).

<sup>30</sup>Impersonal communication with Phil Pittman, DNR, 2/21/94.

<sup>31</sup>La. Rev. Stat. Ann. 3 § 1201 et seq.

Environmental Protection Agency shall not require states to regulate irrigational return flows.<sup>32</sup> Presently, the Department of Environmental Quality is reassessing its position as to whether irrigation flows are exempt from permitting requirements under the general agricultural exemption but nothing has yet been decided.<sup>33</sup>

## **FORESTRY**

### **Preharvest Planning**

The objective of this management measure is to ensure that silvicultural activities, including timber harvesting, site preparation, and associated road construction are conducted without significant nonpoint source pollutant delivery to streams and coastal areas.

#### **Enforceable policies.**

##### *Coastal Zone:*

This area is not regulated under the coastal zone management permit program. Activities such as harvesting for the production of fiber and forest products and maintenance of existing drainage ditches and forest roads do not require coastal use permits.<sup>34</sup>

##### *Statewide:*

This area is not regulated under the water quality permit program, which is part of the statewide, Louisiana Water Control Law. Specifically exempt under this program are site preparation, harvesting operations, and surface drainage or road construction.<sup>35</sup>

The voluntary Best Management Practices program developed by the Louisiana Forestry Association does address permanent access roads and their construction and timber harvesting.

<sup>32</sup>33 U.S.C.A. § 1342(L).

<sup>33</sup>Personal communication with DEQ on 2/21/94.

<sup>34</sup>La. Rev. Stat. Ann. 49 § 214.34(3); La. Admin. Code tit. 43 § 1.723(B)(7).

<sup>35</sup>La. Admin. Code tit. 33 § 1X.301(M).

However, this is not an enforceable regulation. This program is a voluntary program of suggested forestry practices.

### **Streamside Management Areas**

The objective of this management measure is to develop streamside management practices which will benefit water quality and aquatic habitat, and which will reduce erosion and sediment introduction into waterways.

#### **Enforceable policies.**

##### *Coastal Zone:*

The coastal management regulations address stream protection and would apply to streamside management measures for new forestry practices.<sup>36</sup> However, forestry activities on lands previously used for forestry are exempt from the coastal use permit requirements.<sup>37</sup>

##### *Statewide:*

Under the Louisiana Water Control Law, there is a specific prohibition against any person who is engaged in logging operations from discharging or leaving any trees or treetops in any of the navigable waters of the state.<sup>38</sup> This does not directly apply to streamside management practices; however, it does affect water quality and aquatic habitat.

The Louisiana Scenic Rivers Act would provide some enforceable policies for this management measure for any rivers or streams designated as natural or scenic.<sup>39</sup>

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<sup>36</sup>La. Admin. Code tit. 43 § 1.701(G)(5), (9), (16), (18), (19), and 717C.

<sup>37</sup>La. Admin. Code tit. 43 § 1.723B(1)(a)(i).

<sup>38</sup>La. Rev. Stat. Ann. 30 § 2076(B).

<sup>39</sup>La. Rev. Stat. Ann. 56 § 1841 et seq.

The voluntary Best Management Practices program developed by the Louisiana Forestry Association does address streamside management areas. However, this is not an enforceable regulation. This program is a voluntary program of suggested forestry practices.

### **Road Construction/Reconstruction**

This management measure's objective is to design roads which minimize delivery of sediment to surface waters during construction and reconstruction.

#### **Enforceable policies:**

##### *Coastal Zone:*

This area is not regulated under the Louisiana State and Local Coastal Resources Management Act. Activities such as maintenance of existing drainage ditches and forest roads do not require coastal use permits.<sup>40</sup> However, the word existing would seem to signify that new road construction which has a significant effect on the coastal waters would need a permit. The coastal management guidelines state that linear facilities, which includes roads, shall be planned using the best practical techniques to minimize disruption of natural hydrologic and sediment transport patterns, sheet flow and water quality.<sup>41</sup>

##### *Statewide:*

This area is not regulated under the Louisiana Water Control Law. Specifically exempt under this law is surface drainage and road construction and maintenance from which there is natural runoff.<sup>42</sup>

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<sup>40</sup>La. Admin. Code tit. 43 § 1.723(B)(7).

<sup>44</sup>La. Admin. Code tit. 43 § 1.705(i).

<sup>42</sup>La. Admin. Code tit. 33 § 1X.301(M).

The voluntary Best Management Practices program developed by the Louisiana Forestry Association does address permanent access roads and their construction. However, this is not enforceable regulation. This program is a voluntary program of suggested forestry practices.

#### Road Management

The objective of this management measure is to manage; existing roads to maintain stability and utility and to minimize sedimentation and pollution from runoff-transported materials.

#### Enforceable policies:

##### *Coastal Zone:*

This activity is not regulated under the State and Local Coastal Resources Management Act. The coastal use guidelines exempt maintenance of existing forest roads from coastal use permit requirements.<sup>43</sup>

##### *Statewide:*

This activity is not regulated under the Louisiana Water Control Law. Specifically exempt under this law are surface drainage and road construction and maintenance from which there is natural runoff.<sup>44</sup>

The voluntary Best Management Practices program developed by the Louisiana Forestry Association does address permanent access roads and their construction. However, this is not enforceable regulation. This program is a voluntary program of suggested forestry practices.

#### **Timber Harvesting**

The goal of this management measure is to minimize sedimentation resulting from the siting and operation of timber harvesting, and to manage petroleum products properly.

#### Enforceable policies.

##### *Coastal Zone.*

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<sup>43</sup>La. Admin. Code tit. 43 § 1.723(B)(7).

<sup>44</sup>La. Admin. Code tit. 33 § 1X.301(M).

This area is not regulated under the State and Local Coastal Resources Management Act. Activities such as harvesting for the production of fiber and forest products do not require coastal use permits.<sup>45</sup>

*Statewide:*

Sedimentation is not regulated under the Louisiana Water Control Law. Specifically exempt under this program is timber harvesting operations.<sup>46</sup>

The voluntary Best Management Practices program developed by the Louisiana Forestry Association does address timber harvesting. However, this is not an enforceable regulation. This is a voluntary program of suggested forestry practices.

The spillage or discharge of petroleum products would be regulated under the Louisiana Environmental Quality Act, the Hazardous Waste Control Law, and the Water Control Law. See the discussion under the Marina Fueling Station Design Management Measure and the Urban Construction Site Chemical Control Management Measure.

**Site Preparation and Forest Regeneration**

The objective of this management measure is to reduce nonpoint source pollution resulting from site preparation and regeneration of forest stands. This is accomplished generally by minimizing mineral soil disturbance and detachment, thereby reducing erosion and sedimentation and by protection of water bodies during site preparation and regeneration activities.

*Enforceable policies:*

Louisiana does not have any enforceable regulation of these activities in the coastal zone or statewide. However, the Louisiana Forestry Commission has established a state policy that requires reforestation when trees have been cut down on public land or rights-of-way by or under the authority of a state agency, department, board, or commission. A minimum of two

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<sup>45</sup>La. Admin Code tit. 43 § 1.723(B)(7).

<sup>46</sup>La. Admin. Code tit. 33 § 1X.301(M).

replacement trees shall be planted for every tree harvested which is ten inches or greater in diameter at breast height.<sup>47</sup> However, if there is no room in the project area, this policy does not apply. Also, reforestation is encouraged on private lands through contracts with the Forestry Commission, but this is on a voluntary basis.<sup>48</sup>

The voluntary Best Management Practices program developed by the Louisiana Forestry Association does address reforestation activities. However, this is not an enforceable regulation. This program is a voluntary program of suggested forestry practices.

### **Fire Management**

The goal of this management measure is to minimize potential non-point source pollution and erosion resolution from prescribed fire for site preparation and from the methods used for wildfire control or suppression.

#### *Enforceable policies.*

While under Louisiana's statutory scheme there is prosecution for willful and negligent setting fire to forests, and requirements on the state forester to prepare and distribute fire posters and warning notices, there is no regulation applicable to the Forestry Community to guide their use of fire or fire control.<sup>49</sup> All railroad operations, electric transmission lines, or oil or gas pipelines through forest lands within the state must keep their right of ways clear of all combustible material and to keep an adequate fire line cleared.<sup>50</sup>

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<sup>47</sup>La. Rev. Stat. Ann. 3 § 4271.

<sup>48</sup>La. Rev. Stat. Ann. 3 § 4284.

<sup>49</sup>La. Rev. Stat. Ann. 3 § 4281-82.

<sup>50</sup>La. Rev. Stat. Ann. 3 § 4279.

The voluntary Best Management Practices program developed by the Louisiana Forest Association does address fire line construction. However, this is not an enforceable regulation. This program is a voluntary program of suggested forestry practices.

### **Revegetation of Disturbed Areas**

The objective of this management measure is to reduce the erosion and sedimentation by rapid revegetation of disturbed areas resulting from harvesting, road building, and site preparation conducted as part of normal silvicultural activities.

#### **Enforceable policies:**

Louisiana does not have any enforceable policies applicable to this management measure, other than the reforestation law described under the Site Preparation and Forest Regeneration Management Measure.<sup>51</sup> These activities are excluded from the Louisiana State and Local Coastal Resources Management Act and the Louisiana Water Control Law.

The voluntary Best Management Practices program developed by the Louisiana Forestry Association does address soil disturbance and reforestation. The management suggestion prompts forest operations to respond quickly to disturbance of highly erodible soils by proper reforestation. However, this is not an enforceable regulation. The program is a voluntary program of suggested forestry practices.

### **Forest Chemical Management**

The objective of this management measure is to ensure proper use of pesticides and fertilizers during silvicultural activities, thereby reducing nonpoint source pollution due to the movement of forest chemicals off-site during and after application.

#### **Enforceable policies:**

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<sup>54</sup>La. Rev. Stat. Ann. 3 § 4271.

The Louisiana Fertilizer Law gives authority to the Fertilizer Commission to make rules and regulations as they find necessary to address the sale of fertilizers in Louisiana.<sup>52</sup> The main focus of Louisiana's Fertilizer Law regulations has been on registration and the sale of fertilizers.<sup>53</sup> No enforceable regulation has been developed to control fertilizer application.

Pesticide application is regulated by the Louisiana Pesticide Law. See the discussion under the Agriculture Pesticide Management Measure.

The voluntary Best Management Practices program developed by the Louisiana Forestry Association does address forest chemicals. The measure encourages chemicals to be applied by trained and certified licensees according to label instructions. This program is a voluntary program of suggested forestry practices.

### **Wetland Forest**

The objective of this management measure is to minimize damage to the aquatic functions of forested wetlands.

#### **Enforceable policies:**

##### *Coastal Zone:*

The Louisiana State and Local Coastal Resources Management Act regulates activities in the coastal zone conducted in wetland areas that have a direct and significant impact on coastal waters.<sup>54</sup> Therefore, logging of wetland forests would be regulated unless carried out on lands consistently used in the past for such activities which are exempt from regulation under the coastal use permit program.<sup>55</sup>

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<sup>52</sup>La. Rev. Stat. Ann. 3 § 1312.

<sup>53</sup>La. Admin. Code tit. 7 § 7901-7935.

<sup>54</sup>La. Rev. Stat. Ann. 49 § 214.30.

<sup>55</sup>La. Rev. Stat. Ann. 49 § 214.34(A)(3).

*Statewide:*

There are no enforceable policies applicable to this management measure other than for wetland forest within 100 feet of the low water mark of a scenic river in which the cutting of timber would be regulated.<sup>56</sup>

## **MANAGEMENT MEASURES FOR URBAN AREAS**

### ***I. Urban Runoff***

#### **New Development Management Measures**

This management measure is intended to be applied to control urban runoff and treat associated pollutants generated from new development, redevelopment, and new and relocated roads, highways, and bridges. The objective is to decrease the erosive potential of increased runoff volumes and velocities associated with development-induced changes in hydrology; remove suspended solids and associated pollutants entrained in runoff that results from activities occurring during and after development; retain hydrological conditions to closely resemble those of the predisturbance condition; and preserve natural systems including in-stream habitat.

#### **Enforceable Policies:**

##### ***Coastal Zone.***

The Louisiana's State and Local Coastal Resources Management Act regulates development and redevelopment of roads, highways, and bridges through the coastal use permit system. The coastal management regulations state that permitted activities must be evaluated to consider the effect the project will have on the coastal zone, such as the effect on soil and water conditions, the effect of the techniques and materials used in construction and operation, and the effect on important natural resources, wildlife, and aquatic habitats.<sup>57</sup> The regulations also state that activities shall, to the maximum extent practicable, be designed, constructed and operated, to

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<sup>56</sup> La. Rev. Stat. Ann. 56 § 1841 ct seq.

<sup>57</sup> La. Admin. Code tit. 43 § 1.701(F).

reduce alteration in natural sediment and nutrient supplies, avoid discharges of inorganic nutrient compounds, alter natural concentrations of oxygen in coastal waters, and avoid land loss, erosion, and subsidence.<sup>58</sup> Linear facilities such as roads are to be planned, designed, located, and built so as to minimize disruption of natural hydrologic and sediment transport patterns, sheet flow, and water quality and to minimize adverse impacts on wetlands.<sup>59</sup>

*Statewide:*

Louisiana follows the guidelines for erosion and sediment control in highway construction set by the American Association of State Highway and Transportation Officials (AASHTO). The state standards for road construction must meet Federal Standards in order to receive federal aid.<sup>60</sup> In response to this, Louisiana has opted to use the federal standards to ensure compliance with federal regulations. The objective of these guidelines is to limit off-site effects, facilitate project construction and minimize overall cost, and to comply with Federal, State, and local regulations. The plan development section calls for measures such as ground cover, diversion dikes and ditches, temporary slope drains, silt fences, straw bales, and sediment basins. The permanent erosion and sediment control measures include vegetation, slopes, channels, shoulder drains, culverts, and underdrains. Bridge construction is also specifically addressed by AASHTO. The guidelines on bridges require silt fences, riprap slope protection, and bridge end drains.

Under Louisiana Water Control Law, highways, roads, or bridge construction that increases degradation in the quality of waters of the state requires a water quality permit.<sup>61</sup>

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<sup>58</sup>La. Admin. Code tit. 43 § 1.701(G).

<sup>59</sup>La. Admin. Code tit. 43 § 1.705(1).

<sup>60</sup>23 U.S.C.A. § 109.

<sup>61</sup>La. Rev. Stat. Ann. 30 § 2076.

The Louisiana Department of Transportation also voluntarily uses EPA's "Storm Water Management for Construction Activities Document" as a guide in developing pollution prevention plans. The pollution control measures discussed in the Construction Site Chemical Control Management Measure section below would also be applicable to construction activities in this section.

#### **Watershed Protection Management Measure**

This management measure is intended to be applied to new development or redevelopment including construction of new and relocated roads, highways, and bridges. The objective of this management measure is to reduce the generation of nonpoint source pollutants and to mitigate the impacts of urban runoff associated with developing roads, highways, and bridges.

##### **Enforceable Policies:**

###### *Coastal Zone:*

This management measure would be to some extent enforceable under the same regulations as the New Development Management Measure.

###### *Statewide.*

This management measure would be to some extent enforceable under the same regulations as the New Development Management Measure, but there appear to be no watershed based approaches to water quality management.

#### **Site Development Management Measure**

This management measure is intended to apply to all site development activities. The objective of this management measure is to reduce the generation of nonpoint source pollution and to mitigate the impacts of urban runoff and associated pollutants from all site development by controlling erosion and pollution, disturbing as little area and vegetation as possible, minimizing the percentage of impervious area onsite, avoiding alteration of natural drainage features, etc.

Enforceable Policies:

*Coastal Zone:*

This management measure would be to some extent enforceable under the same regulations as the New Development Management Measure.

*Statewide:*

This management measure would be to some extent enforceable under the same regulations as the New Development Management Measure.

**II. Construction Activities**

**Construction Site Erosion and Sediment Control Management Measure**

The management measure is intended to apply to all construction activities on sites less than five acres in areas that do not have an NPDES permit. The objective of this management measure is to reduce the sediment loadings from construction sites in coastal areas that enter surface water bodies.

Enforceable Policies:

*Coastal Zone:*

The Louisiana State and Local Coastal Resources Management Act requires a coastal use permit for any construction site which directly or significantly affects coastal waters. Construction of dwellings, apartment complexes, motels, restaurants, service stations, garages, repair shops, schools, hospitals, churches, office buildings, stores, amusement parks, signs, drive ways, sidewalks, parking lots, fences, utility poles or lines occurring on lands five feet or more above mean sea level or on fastlands are exempt from the coastal use permit program. However, if the activity will have a direct and significant impact on coastal waters the exemption is subject to appeal.<sup>62</sup> When a construction site is found to have a direct and significant impact on coastal waters and therefore require a coastal use permit, it is subject to tile coastal management guidelines

<sup>62</sup>La. Rev. Stat. Ann. 43 § 214.34.

and must be evaluated to determine the effect of the project on the coastal zone. The effect on soil and water conditions, the effects of the techniques and material used in construction, the effects on natural drainage patterns, and the effects of long term adverse impacts are all considered.<sup>63</sup> The guidelines also state that all permitted activities must, to the maximum extent practicable, avoid reduction in natural sediment and nutrient supply, discharges of inorganic nutrient compounds, alterations in oxygen concentrations, detrimental sediment transportation, and land loss, erosion, and subsidence.<sup>64</sup>

*Statewide:*

Under Louisiana's Water Control Law, a water quality permit is required for any construction activity that causes an increase in pollutants or a degradation in the quality of pollutants into the waters of the state.<sup>65</sup>

No other statewide rules or regulations have been promulgated in Louisiana to address sediment and erosion control in construction site practices. However, there are probably extensive parish and city ordinances addressing such matters. Construction sites over five acres in Louisiana are regulated on a federal level through the NPDES program.<sup>66</sup>

**Construction Site Chemical Control Management Measure**

This management measure is intended to be applied to all construction sites less than five acres in area and to new, resurfaced, restored, and reconstructed road, highway, and bridge construction projects. The objective of this management measure is to prevent the generation of

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<sup>63</sup>La. Admin. Code tit. 43 § 1.701(F).

<sup>64</sup>La. Admin. Code tit. 43 § 1.701(G).

<sup>65</sup>La. Rev. Stat. Ann. 30 § 2076.

<sup>66</sup>33 U.S.C.A. § 1342.

nonpoint source pollution from construction sites due to improper handling and usage of nutrients and toxic substances, and to prevent the movement of toxic substances from the construction site.

*Enforceable Policies:*

*Coastal Zone:*

This management measure is to some extent enforceable under the same regulations as the Construction Site Erosion and Sediment Control Management Measure. A permitted construction site must, to the maximum extent practicable, avoid discharges of pathogens or toxic substance into coastal waters.<sup>67</sup> The guidelines address this specifically in several areas. Any shoreline modification structures shall be built to avoid the introduction of pollutants and toxic substances into coastal waters.<sup>68</sup> Surface alteration sites and facilities shall be designed, constructed and operated to prevent the release of pollutants or toxic substances.<sup>69</sup> Drilling and production sites shall be prepared, constructed and operated to prevent the release of pollutants or toxic substance.

*Statewide:*

The Louisiana Water Control law prohibits discharge of any substance into the waters of the state without a permit or license.<sup>70</sup> Construction sites that are allowing toxic substances to move into water from the site are in violation of the Louisiana Water Control Law.

The Louisiana Environmental Quality Act and regulations require reporting of unauthorized discharges of pollutants into the air, waters of the state, or the ground to the Department of

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<sup>67</sup>La. Admin. Code tit. 43 § 1.701(G).

<sup>68</sup>La. Admin. Code tit. 43 § 1.709(D).

<sup>69</sup>La. Admin. Code tit. 43 § 1.711 (M).

<sup>70</sup>La. Rev. Stat. Ann. 30 § 2076.

Environmental Quality.<sup>71</sup> The reporting requirements are based on the chemical nature of the pollutant and the amount discharged or spilled. Oil, which includes petroleum fuel oil, and crude oil, that is discharged in excess of 42 gallons is subject to reporting requirements.<sup>72</sup> Large construction sites that will be in place for long periods may be classified as hazardous or solid waste generators.<sup>73</sup> In the case of hazardous waste generators, an EPA identification number may be required for storage and transportation of hazardous waste.<sup>74</sup> Small, short term sites may not be required to obtain an identification number until closure of the site. Technically, no intentional release of a pollutant to the ground is allowed without a permit.<sup>75</sup> Practically, however, the hazardous waste regulations apply to large scale waste handlers and many small discharges go unregulated.

Pesticide application would be regulated under the same provisions as those discussed in the Agriculture Pesticide Management Measure.

### ***III. Existing Development***

#### **Existing Development Management Measures**

The management measure is intended to be applied to all urban areas and existing developments. The objective is to protect or improve surface water quality by the development and implementation of watershed management programs.

#### **Enforceable Policies.**

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<sup>71</sup> La. Rev. Stat. Ann. 30 § 2025; La. Admin. Code tit. 33 § 1.3901-3931.

<sup>72</sup>La. Admin. Code tit 33 § 3905 3931.

<sup>73</sup>La. Admin. Code tit. 33 § V.109, 33 § VI1.501.

<sup>74</sup>La. Admin. Code tit. 33 § V.1101, 1105.

<sup>75</sup>La. Rev. Stat. Ann. 30 § 2193E.

*Coastal Zone:*

This Louisiana State and Local Coastal Resources Management Act and associated regulations (the coastal management guidelines) set out general requirements for new construction projects to evaluate existing drainage patterns and water regimes of the surrounding area.<sup>76</sup> The guidelines also state that runoff from developed areas shall be, to the maximum extent practicable, be managed to follow natural water patterns, quantity, quality and rate of flow. However, this approach does not focus on watershed management directly, but rather states general policies to avoid destruction of natural water patterns and quality. This approach does not grant enforceable policies to mandate requirements for existing development.

*Statewide:*

There is no statewide enforceable policy in this area.

***IV. Onsite Disposal System***

**New Onsite Disposal Systems Management Measures**

This management measure is intended to be applied to all new Onsite Disposal Systems (OSDS) not covered by NPDES regulations. The objective is to develop siting, design, installation, operation, and maintenance measures for OSDS to reduce pollutant discharge.

**Enforceable Policies:**

*Coastal Zone:*

The Louisiana State and Local Coastal Resources Management Act regulates waste disposal systems by requiring coastal use permits. The coastal management regulations state that permitted activities must be evaluated to assess the techniques and materials used in construction and operation, the likelihood of secondary and cumulative impacts, and the long term adverse

<sup>76</sup>La. Admin. Code tit. 43 § 1.701.

<sup>77</sup>La. Admin. Code tit. 43 § 1.717.

impacts.<sup>78</sup> The regulations also state that to the maximum extent practicable, projects will avoid detrimental discharges of inorganic nutrient compounds, detrimental discharges of suspended solids, and discharges of pathogens or toxic substances.<sup>79</sup> The regulations specifically address disposal of wastes. Disposal of wastes, to the maximum extent practicable, should be avoided in wetlands and should be done in a manner that results in minimal adverse impacts. Waste facilities located in wetlands are to be designed and constructed using the best practicable techniques to prevent leaching and movement of leachate away from the facility.<sup>80</sup> The regulations state that waste facilities in wetlands must be designed to withstand all expectable adverse conditions without releasing pollutants.<sup>81</sup> The regulations encourage the use of lagoons and aquatic vegetation reservoirs to remove pollutants. Importantly, the regulations prohibit radioactive waste disposal in the coastal zone, whether temporary or permanent.<sup>82</sup> Coastal use permits are conditioned on compliance with all other state law addressing hazardous waste. Exempt from coastal use permit requirements are construction of a single family residence or camp and construction, maintenance, repair, or normal use of any dwelling, apartment complex, hotel, motel, restaurant...etc. that occurs five feet above sea level or on fastlands.<sup>83</sup> Septic systems associated with any of these structures would be exempt from permitting requirements. However, under a memorandum of

<sup>78</sup>La. Admin. Code tit. 43 § 1.701(F).

<sup>79</sup>La. Admin. Code tit. 43 § 1.701(G).

<sup>80</sup>La. Admin. Code tit. 43 § 1.715.

<sup>81</sup> La. Admin. Code tit. 43 § 1.7]5(C).

<sup>82</sup> La. Admin. Code tit. 43 § 1.715(H).

<sup>83</sup> La. Rev. Stat. Ann. 214.34(A)(7); La. Admin. Code tit. 43 § 1.723B1 (iv) and 5.

understanding with the Department of Health and Hospitals (DHH), the Coastal Management Division of the Department of Natural Resources will notify DHH of the proposed construction allowing DHH to ensure compliance with the State Sanitary Code.

*Statewide:*

The Louisiana's Water Control Law regulates discharge of any substances into the water of the state from an onsite disposal system.

An OSDS that handles solid waste would also be regulated by the Louisiana Solid Waste Management and Resource Recovery Law.<sup>85</sup> If the disposal contains hazardous substances, the Louisiana Hazardous Waste Control Law will regulate the disposal system.<sup>86</sup> Septic systems for the treatment of normal sewage would be regulated under the state sanitary code.<sup>87</sup> Local ordinances will also probably be applicable to this management measure. No management measures exist for some management measures such as eliminating the use of garbage disposals and organic chemical solvent septic system additives.

**Operating Onsite Disposal System Management Measure**

This management measure is intended to apply to all operating OSDS. The objective is to minimize pollutant loadings from operating OSDS by assuring that they are maintained and operated properly.

<sup>84</sup>La. Rev. Stat. Ann. 30 § 2075.

<sup>85</sup>La. Rev. Stat. Ann. 30§2155.

<sup>86</sup>La. Rev. Stat. Ann. 30 § 2171; La. Admin. Code tit. 33 § V.1101-1121.

<sup>87</sup>Louisiana State Sanitary Code, Chapter 13.

*Enforceable Policies:*

*Coastal Zone*

This management measure would be to some extent enforceable under the same regulations as the New Onsite Disposal System Management Measure.

*Statewide:*

This management measure is enforceable to some extent under the same regulations as the New Onsite Disposal System Management Measure.

***V. Pollution Prevention***

**Pollution Prevention Management Measure**

The objective of this management measure is to reduce nonpoint source pollutants generated from the following activities: improper storage and disposal of household hazardous chemicals, lawn and garden activities, turf management on golf courses, parks, recreational areas, improper maintenance of onsite disposal systems, discharge of pollutants into storm drains, commercial activities such as parking lots and gas stations, and improper disposal of pet excrement.

*Enforceable Policies:*

*Coastal Zone:*

There are no enforceable policies to implement the management measures described in this section other than the coastal use regulations regarding waste disposal discussed in the section on Management Measures for New Onsite Disposal Systems.

*Statewide:*

As discussed in the section on Management Measures for New Onsite Disposal Systems, the Louisiana State Sanitary Code regulates maintenance of septic systems.<sup>88</sup> The maintenance of golf course turfs, lawns and gardens, parks, and recreational areas are not regulated under

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<sup>88</sup>Louisiana State Sanitary Code, Chapter 13.

Louisiana law. Louisiana's Fertilizer Law focuses mainly on fertilizer registration not application. The discharge of pollutants into storm water drains is prohibited under the Louisiana Water Control Law, which states no person shall discharge any substances into the waters of the state without a permit, variance, or license.<sup>89</sup> The improper disposal of hazardous wastes is also regulated by the Hazardous Waste Control Law.<sup>90</sup> While technically these activities fall under enforceable regulations, realistically there is no currently feasible way to monitor storm water sewers or what individual households are putting into their trash cans or down their drains. The Solid Waste Recycling and Reduction Law provides incentives to increase used oil collection facilities for used oil recovery thereby reducing illegal dumping of oil into ditches, storm drains, and household drains.<sup>91</sup> Several public education programs in the state are aimed at litter control. These are voluntary programs. The Louisiana Litter Control and Recycling Commission is in charge of several of these programs.<sup>92</sup> There is also a statewide prohibition against littering backed by civil penalties.<sup>93</sup> Judging from the amount of litter in the state, these policies have had little effect. Parishes also have regulatory authority to control litter. Note: See *Jefferson Parish's Proposed Management Plan*.

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<sup>89</sup> La. Rev. Stat. Ann. 30 §2075

<sup>90</sup> La. Rev. Stat. Ann. 30 § 2171 et seq.

<sup>91</sup> La. Rev. Stat. Ann. 30 § 2417.

<sup>92</sup> La. Rev. Stat. Ann. 25 §1101-1117.

<sup>93</sup> La. Rev. Stat. Ann. 25 §1111.

## ***VI. Roads, Highways, and Bridges***

### **Management Measure for Planning, Siting, and Developing Roads and Highways**

This management measure is intended to apply to site development and land disturbing activities for new, relocated, and reconstructed roads and highways. The objective is to reduce the generation of nonpoint source pollutants and to mitigate the impacts of urban runoff and associated pollutants.

#### **Enforceable Policies:**

##### ***Coastal Zone:***

This management measure is enforceable under the same regulations as the New Development and Construction Site Management measures.

##### ***Statewide:***

This management measure is enforceable under the same regulations as the New Development and Construction Site Management Measures.

### **Management Measure for Bridges**

This management measure is intended to apply to new, relocated and rehabilitated bridge structures. The objective is to control erosion, stream bed scouring, and surface runoff from such activities.

#### **Enforceable Policies:**

##### ***Coastal Zone:***

The enforceable policies for this management measure are the same as those discussed in the section on New Development and Construction Site Management Measures.

##### ***Statewide:***

Louisiana follows the regulations for erosion and sediment control in highway construction set by the

AASHTO.<sup>94</sup> The regulations address bridge construction directly. Runoff problems

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<sup>94</sup>Personal communication with Frank Cardaronolla of DOTD on 3/29/94.

should be avoided with proper slope drains. Damage to stream banks is to be avoided by silt fences or brush barrier, sediment basins, and temporal vegetation. See the discussion in the New Development and Construction Site Management Measures sections.

#### **Management Measure for Construction Projects**

This management measure is intended to apply to new, replaced, restored, and rehabilitated road, highway, and bridge construction projects. The objective is to control erosion and offsite movement of sediment from such activities.

##### **Enforceable Policies:**

###### *Coastal Zone:*

The enforceable policies for this management measure are the same as those discussed in the New Development and Construction Site Management Measure sections.

###### *Statewide:*

The enforceable policies for this Management measure are the same as those discussed in the New Development and Construction Site Management Measure sections.

#### **Management Measure for Construction Site Chemical Control**

This management measure is intended to apply to new, resurfaced, restored, and rehabilitated road, highway, and bridge construction projects. The objective is to guard against toxic spills and hazardous loading at construction sites from equipment and fuel storage sites.

##### **Enforceable Policies.**

###### *Coastal Zone:*

The enforceable policies for this management measure are the same as those discussed in the Construction Site Chemical Control Management Measure.

*Statewide:*

The enforceable policies for this management measure are the same regulations as those discussed in the Construction Site Chemical Control Management Measure.

**Management Measure for Operation and Maintenance**

This management measure is intended to be applied to existing, restored, and rehabilitated roads, highways, and bridges. The objective of this management measure is to ensure that pollutant loadings are minimized.

**Enforceable Policies:**

*Coastal Zone:*

The Louisiana State and Local Coastal Resources Management Act regulations state that runoff from developed areas shall, to the maximum extent practicable, be managed to follow natural water patterns, quantity, quality and rate of flow. The regulations in general address new activities and set standards for construction and design of new development rather than existing maintenance. However, restorative and rehabilitative road, highway, and bridge construction would be subject to the coastal use permit system and therefore be subjected to the coastal management regulations. The regulations state that activities needing a coastal use permit must to the maximum extent practical, avoid introduction of suspended solids into coastal waters and detrimental changes in the sediment transport processes and be planned, designed, and built using the best techniques to prevent bank slumping and erosion.<sup>95</sup>

*Statewide:*

The enforceable policies for this management measure are the same regulations as those discussed in the New Development Management Measure section, specifically the permanent erosion and sediment control measures

**Management Measure for Roads, Highway, and Bridge Runoff Systems**

This management measure is intended to be applied by states to existing, resurfaced, restored, and rehabilitated roads, highways, and bridges. The objective is to minimize erosion and

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<sup>95</sup>La. Admin. Code tit. 43 § 1.701(G), 705(J).

pollution loads which contain heavy metals, hydrocarbons, sediment, and debris that runoff into and threaten surface water quality.

*Enforceable Policies:*

*Coastal Zone:*

This management measure will be enforceable under the same regulations as the previous management measure. In addition to the above mentioned, the coastal management guidelines state that discharges of pathogens or toxic substances into coastal waters is to be avoided to the maximum extent practicable.<sup>96</sup>

*Statewide:*

The enforceable policies for this management measure are the same regulations as those discussed in the New Development Management section.

**MARINA MANAGEMENT MEASURES**

***1. Siting and Design***

**Marina Flushing Management Measure**

The objective of this management measure is to ensure flushing of marinas to reduce or eliminate the potential for stagnation of water in marinas by enhancing flushing processes which will help maintain biological productivity and aesthetics. Flushing is to be facilitated by proper design which allows natural water movement.

*Enforceable Policies:*

*Coastal Zone:*

Under Louisiana's State and Local Coastal Resources Management Act, marinas are required to obtain coastal use permits. The coastal use guidelines use a feasibility based approach. Piers, docks, and other harbor structures are required to be designed and built using best practical

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<sup>96</sup>La. Admin. Code tit. 43 § 1.701(G).

techniques to avoid obstruction of water circulation.<sup>97</sup> Marinas and similar commercial and recreational developments are required, to the maximum extent practicable, to be located so as not to result in adverse impacts on open productive oyster beds, or submerged grass beds.<sup>98</sup> The coastal use permitting system provides an enforceable regulatory scheme of design requirements through which proper flushing management can be enhanced.

*Statewide:*

Under the Louisiana Water Control Law, marina's may be subject to water quality permit requirements. Any construction or activity which would cause increases in the quantity of pollutants discharged or degradation in the quality of the discharge of pollutants into the waters of the state or which would otherwise alter the physical, chemical, or biological properties of any waters of the state would require a water quality permit.<sup>99</sup> Marinas that meet these designations would require water quality permits in order to operate.

**Water Quality Assessment Management Measure**

The objective of this management measure is to assess the ambient and marina water quality to determine whether the proposed design of new and expanding marinas will result in poor water quality.

**Enforceable policies:**

*Coastal Zone:*

The Louisiana State and Local Coastal Resources Management Act's regulations require that development in the coastal zone, to the maximum extent practicable, avoid degradation of

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<sup>97</sup>La. Admin. Code tit. 43 § 1.709(E).

<sup>98</sup>La. Admin. Code tit. 43 § 1.709(F).

<sup>99</sup>La. Admin. Code tit. 33 § 1X.301(B)(3).

water quality.<sup>100</sup> To this end, requirements that marina developers perform Redevelopment and/or postdevelopment monitoring of the marina or ambient waters or numerical or physical modeling of flushing and water quality characteristics can be included in coastal use permits. Such requirements have been included in the conditions of coastal use permits for some marinas but not for all. The decision to require water quality assessment is made on a case by case basis.<sup>101</sup>

*Statewide:*

This management measure is enforceable under the same provisions of the Louisiana Water Control Law described in the Marina Flushing Management Measure.

**Habitat Assessment Management Measure**

The objective of this management measure is to require habitat assessments as part of the siting and design of marinas to protect against adverse effects on shellfish resources, wetlands, submerged aquatic vegetation, or other important riparian and aquatic habitat areas.

**Enforceable Policies:**

*Coastal Zone:*

The Louisiana's State and Local Coastal Resources Management Act's regulations require that marinas and similar commercial and recreational developments shall, to the maximum extent practicable, not be located so as to result in adverse impacts on open productive oyster beds, or submersed grass beds or adverse alteration or destruction of unique or valuable habitats, critical habitat for endangered species, important wildlife or fishery breeding

or nursery areas, designated wildlife management or sanctuary areas or forestlands.<sup>102</sup> To this end extensive habitat

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<sup>100</sup>La. Admin. Code tit. 43 § 1.701(G).

<sup>101</sup>Personal communications with Mr. Rocky Hinds, program manager for permits and mitigation, Coastal Management Division, DNR, 2/25/94.

<sup>102</sup>La. Admin. Code tit. 43 § 1.701(F)(12) and (G)(16), 709(F), and 711(H).

assessment is performed by the Coastal Management Division of the Louisiana Department of Natural Resources as part of the marina permitting process.

*Statewide:*

The state water quality standards establish water use designations for surface waters to be used in setting standards below which degradation will not be allowed.<sup>103</sup> These designations and standards include consideration of aquatic habitat protection. Habitat assessment would be a necessary preliminary step to establishing the water quality standards.

**Shoreline Stabilization Management Measure**

The objective of this management measure is to minimize shoreline erosion, preferably by nonstructural methods, which may result from site changes in new and expanding marinas.

**Enforceable Policies:**

*Coastal Zone:*

The Louisiana State and Local Coastal Resources Management Act's regulations require that to the maximum extent practicable non-structural methods of shoreline stabilization be used and that shoreline modification structures shall be designed and built using best practical techniques to minimize adverse environmental impacts.<sup>105</sup> Shoreline modification structures are also required to be built using the best practical materials and techniques to avoid the introduction of pollutants and toxic substances into coastal waters.<sup>106</sup> Jetties, groins, breakwaters and similar structures are

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<sup>103</sup>La. Admin. Code tit. 33 § 1X.1109.

<sup>104</sup>La. Admin. Code tit. 33 § IX.1109B1, 1111C, E, and G. 1113b1, 5 and 10.

<sup>105</sup>La. Admin. Code tit. 43 § 1.709 (A) and (B).

<sup>106</sup>GLa. Admin. Code tit. 43 § 1.709(D).

required to be planned, designed and constructed so as to avoid to the maximum extent practicable downstream land loss and erosion.<sup>107</sup> These requirements apply to marina developments.

*Statewide:*

There are no statewide enforceable policies to implement this management measure.

**Storm Water Runoff Management Measure**

The objective of this management measure is to minimize stormwater runoff pollution from hull maintenance areas.

**Enforceable Policies:**

*Coastal Zone:*

The coastal use permit program does not specifically cover hull maintenance in marinas. However, the regulations generally require that to the maximum extent practicable activities be planned, sited, designed, constructed, operated, and maintained to avoid significant discharges of pathogens or toxic substances into coastal waters, that surface alterations be designed, constructed, and operated using the best practical techniques to prevent the release of pollutants or toxic substances into the environment, and that runoff shall be managed to simulate natural water patterns quantity, quality, and rate of flow.<sup>108</sup> The coastal use permit program regulates construction of marinas in the coastal zone and could, through permit conditions, require implementation of some of the aspects of the stormwater runoff management measure.

*Statewide:*

As described in the Marina Flushing Management Measure Section above marinas may be subject to water quality permit requirements. The degradation of water quality as a result of hull

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<sup>107</sup>La. Admin. Code tit. 43 § 1709(1).

<sup>108</sup>La. Admin. Code tit. 43 § 1.701(G)(13), 711(M), and 717(B).

maintenance areas would effect a marina's ability to obtain a water quality permit.<sup>109</sup> If a marina's activities include frequent or concentrated hull maintenance activities then the marina's water quality permit would address this and marinas whose water quality falls below the level set in their permit will be in violation. However, individual hull maintenance activities would not be specifically covered by the water quality permit system.

### **Fueling Station Design Management Measure**

The objective of this management measure is to contain pollutants released by spills during fueling operations and prevent their spread throughout the marina.

#### **Enforceable Policies:**

##### *Coastal Zone:*

The Louisiana State and Local Coastal Resources Management Act exempts the construction, maintenance, repair, or normal use of service stations, that occur wholly on lands five feet or more above mean sea level or on fastlands except where the secretary finds, subject to appeal, that the particular activities would have direct and significant impacts on coastal waters.<sup>110</sup> An example of a significant impact would be if runoff from a service station was adversely affecting wetlands. If not exempted under the above provisions, the fueling station design management measures could be included as conditions in permits for marina construction or expansion by the same authority cited under stormwater runoff management measures.

##### *Statewide:*

The Louisiana Water Control Law's water quality regulations establish a spill prevention and control requirement. This requires the owner/operator of a facility that deals with oil of any kind including petroleum or in any form, such as a fueling station, to develop a contingency plan

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<sup>109</sup>La. Rev. Stat. Ann. 30 § 2075.

<sup>110</sup>La. Rev. Stat. Ann. 49 § 214.34

and implementation plan concerning spill prevention and control.<sup>111</sup> The implementation plan will set out operating procedures and best management practices to prevent and control the discharge of pollutants resulting from spill events.<sup>112</sup> The Louisiana Oil Spill Prevention and Response Act<sup>113</sup> requires terminal facilities to take spill prevention measures. Terminal facilities are defined in the Act as any waterfront or offshore pipeline, structure, equipment or device used for the purposes of drilling for, pumping, storing, handling, or transferring oil, and operating where a discharge from the facility could threaten waters of the state.<sup>114</sup> Such facilities must provide the oil spill coordinator with a discharge prevention and response plan consistent with state and federal plans and regulations for prevention of unauthorized discharges of oil and abatement, and for containment and removal of pollution where such discharges occur.<sup>115</sup> Oil is defined by the Act to include petroleum.<sup>116</sup> Thus far, such response plans have only had to be consistent with those required by the Federal Oil Pollution Act of 1990,<sup>117</sup> but the state Act allows state requirements that are in addition to or vary materially front federal requirements if the state interests served are

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<sup>111</sup>La. Admin. Code tit. 33 § 1 X.901 (A).

<sup>112</sup>La. Admin. Code tit. 33 § 1X.901(A).

<sup>113</sup>La. Rev. Stat. Ann. 30 § 2451-2492.

<sup>114</sup>La. Rev. Stat. Ann. 30 § 2454(27).

<sup>115</sup>La. Rev. Stat. Ann. 30 § 2470(B)(1)(a).

<sup>116</sup>La. Rev. Stat. Ann. 30 § 2454(18).

<sup>117</sup>33 U.S.C.A. §§ 2701-2761; La. Rev. Stat. Ann. 30 § 2457(A), 2475, and personal communication with Tim Hebert, Deputy Oil Spill Coordinator, Office of the Governor, 3/1/94.

substantial compared to the burdens of the requirements.<sup>118</sup> Thus it appears that the Act would provide some enforceable policies for the management measures described in this section for marine service station pumps.

When opening a new garage or oil business, the owner is required to petition the city council, board of alderman, or police jury of the parish for approval of the location.<sup>119</sup> The owner must also submit with the petition the written assent of a majority of the property owners within three hundred feet. Restrictions on locations prohibit stations from being within three hundred feet of any bridge over a river on any state highway, when it is determined the station is dangerous to public safety.<sup>120</sup>

Additionally, unauthorized discharges or spills may require reporting to the Department of Environmental Quality. See the discussion in the Urban Construction Site Chemical Control.

### **Storage Facility Management Measure**

The objective of this management measure is to install pumpout, dump station, and rest room facilities where needed at new and expanding marinas to reduce the release of sewage to surface waters. These facilities should be designed to allow ease of access and signs should be posted to promote use by the boating public.

#### **Enforceable Policies:**

##### *Coastal Zone:*

Louisiana's State and Local Coastal Resources Management Act's regulations generally require that shoreline modification structures shall be designed and built using best practical techniques to minimize adverse environmental

impacts, and that activities in the coastal zone be

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<sup>118</sup>La. Rev. Stat. Ann. 30 § 2460B(2).

<sup>119</sup>La. Rev. Stat. Ann. 32 § 531.

<sup>120</sup>La. Rev. Stat. Ann. 32 § 532.

designed, constructed, operated, and maintained to avoid, to the maximum extent practicable, discharges of pollutants, pathogens, toxic substances into coastal waters. i2i Additionally the Coastal Management Division has a memorandum of understanding with the Department of Health and Hospitals (DHH) regarding sewage treatment systems. The Coastal Management Division will not issue a coastal use permit unless the applicant has obtained certification (if required) from DHH that the project is in compliance with the State Sanitary Code's applicable sewerage treatment system regulations. The State Sanitary Code applies statewide. While the law and regulations do not address sewage facility in marinas directly, coastal use permits for marinas can and have included conditions requiring pump out stations at marinas.

*Statewide:*

Louisiana's Water Control Law prohibits the discharge within Louisiana of any sewage or sewage sludge in contravention of any rules or regulations adopted pursuant to the Water Control Law. Sewage facilities require water quality permits under the Water Control Law.<sup>123</sup> Sewage facilities require water quality permits under the Water Control law if they result in discharge into the state waters. The Louisiana Water Quality Regulations specifically exempt from permitting requirements human sewage discharged from vessels from onboard toilet facilities.<sup>124</sup> However, the Louisiana Water Control Law gives the Secretary of Environmental Quality authority to establish standards and guidelines as deemed necessary to prevent the discharge from water crafts any trash, garbage, and untreated or improperly treated sewage or

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<sup>121</sup>La. Admin. Code tit. 43 § IX.701(G)(13).

<sup>122</sup>Personal communication with Rocky Hines, DNR, 3129194.

<sup>123</sup>La. Rev. Stat. Ann. 30 § 2076.

<sup>124</sup>La. Admin. Code tit. 33 § 1X.301(D)(1).

sewage sludge in an amount which would degrade water quality.<sup>125</sup> The Water Quality Regulations effluent standards require all vessels with toilet facilities to have a Coast Guard approved sanitation device.<sup>126</sup>

## ***II. Marina and Boat Operation and Maintenance***

### **Solid Waste Management Measure**

The objective of this management measure is to develop proper disposal of solid waste produced by the operation, cleaning, maintenance, and repair of boats to limit entry of solid wastes to surface waters.

#### **Enforceable Policies:**

##### ***Coastal Zone:***

The State and Local Coastal Resources Management Act's regulations do not specifically address solid waste disposal at marinas and the maintenance of boats is probably exempt from coastal use permit requirements.<sup>127</sup> However, the regulations do regulate waste disposal generally and fairly comprehensively<sup>128</sup>, requiring that to the maximum extent practicable, detrimental discharges of inorganic nutrient compounds into coastal waters and discharges of pathogens or toxic substances into coastal waters be avoided. The regulations also require that shoreline modification structures be built using best practical materials and techniques to avoid the introduction of pollutants and toxic substances into coastal waters and that surface alteration sites and facilities be designed using the best practical techniques to prevent the release of pollutants or

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<sup>125</sup>La Rev. Stat. Ann. 30 § 2074(B)(7).

<sup>126</sup>La.. Admin. Code tit. 33 § 1 X.709(F); personal communication with Commander Maroffer, U.S. Coast Guard, New Orleans, on 3/28/94.

<sup>127</sup>La. Rev. Stat. Ann. 49 § 214.34(5).

<sup>128</sup>La. Admin. Code tit. 43 § 1.701(G)(3) and (13), 709(D), 711(M), and 715.

toxic substances into the environment. Many aspects of waste disposal in wetlands are addressed including location, construction, vulnerability to adverse conditions, leaching, marking, identification of waste components, closure of problem facilities, radioactive wastes, and restrictions on waste disposal location. These regulations provide adequate enforceable policies to implement some of the management measures described in this section by placing conditions on marina permits addressing solid waste disposal. Additionally, waste disposal facilities require coastal use permits subject to the above regulations.<sup>129</sup>

*Statewide:*

The Louisiana Solid Waste Management and Resource Recovery Law regulations provide extensive control of solid waste disposal.<sup>130</sup> This law and its regulations provide adequate enforceable policies to implement some of the management measures described in this section. It is unclear whether boat maintenance over water would be considered solid waste disposal under this law. It is doubtful that there has been an interpretation on this issue.

Under Louisiana's Water Control Law, operations that increase the amount of discharge of pollutants into the waters of the state or which would otherwise change the physical, chemical, or biological properties of any waters of the state require a water quality permit.<sup>131</sup> This should apply to marinas where regular hull maintenance operations are conducted.

**Fish Waste Management Measure**

The objective of this management measure is to promote sound fish waste management through a combination of fish-cleaning restrictions, public education, and proper disposal of fish waste.

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<sup>129</sup>La. Admin. Code tit. 43 § 1.715.

<sup>130</sup>La. Rev. Stat. Ann. 30 § 2151-58; La. Admin. Code tit. 33 § V11.101-903.

<sup>131</sup>La. Rev. Stat. Ann. 30 § 2076; La. Admin. Code tit. 33 § 1X.301(A)(3).

*Enforceable policies:*

*Coastal Zone:*

The coastal use permit program does not specifically address fish waste disposal in marinas or otherwise. However, the same laws and regulations described under the Solid Waste Management Measure above could be interpreted to apply to fish waste, especially if the activity was concentrated enough to have a direct and significant impact on coastal waters. So, conceivably marina permits could include conditions addressing this management measure.

*Statewide:*

The definition of "garbage" in the solid waste regulations described in the Solid Waste Management Measure section above includes animal and vegetable matter from the handling, preparation, cooking and serving of foods.<sup>132</sup> So it is possible that concentrated fish waste disposal would be regulated under the Louisiana Solid Waste Management and Resource Recovery Law. However, it is doubtful that an interpretation has been made on this subject.

**Liquid Material Management Measure**

The objective of this management measure is to develop and maintain appropriate storage, transfer, containment, and disposal facilities for liquid material, such as oil, harmful solvents, antifreeze, and paints, and encourage recycling of these materials.

*Enforceable policies:*

*Coastal Zone:*

The same regulations described in the Solid Waste Management Measure Section above apply to the Liquid

Waste and therefore provide enforceable policies to implement some to the management measures in this section.

<sup>132</sup>La. Admin. Code tit. 33 § VI1.501.

*Statewide:*

This management measure is enforceable under the Louisiana Water Control Law's water quality permit program. A permit must be obtained for facilities or activities where there is discharge of runoff from areas where liquid or solid materials are stored or handled, such as to create a potential threat of pollution to state waters.<sup>133</sup>

Louisiana's Hazardous Waste Control Law focuses on large volume hazardous wastes produced by industrial processes. So, while the Hazardous Waste Control Law technically would regulate hazardous substance disposal, realistically, it is probably not applied in a way contemplated by this management measure. See the discussion in the Urban Construction Site Chemical Management Measure Section.

**Petroleum Control Management Measure**

This management measure is to be applied to boats with inboard fuel tanks to minimize the spillage of petroleum from fueling and bilge pumping and thus prevent a visible sheen on the water's surface by using automatic shutoff fueling nozzles, fuel/air separators on air vents or tank stems of inboard fuel tanks, and oil absorbing materials in bilge areas.

**Enforceable Policies:**

*Coastal Zone:*

There are no applicable, enforceable policies for this management measure under the Louisiana State and Local Coastal Resources Management Act other than the general regulations already described in the Solid Waste Management Measure section which would also apply to liquid waste. Those provisions would probably not apply to accidental spillage unless it were consistent enough and concentrated enough to have a direct and significant impact on coastal waters.

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<sup>133</sup>La. Admin. Code tit. 33 § 1 X.301 C.

<sup>134</sup>La. Rev. Stat. Ann. 30 § 2171 et seq.

*Statewide:*

There are no enforceable policies applicable to this management measure other than those that may apply to fueling nozzles as described in the Fueling Station Design Management Measure Section.

### **Boat Cleaning Management Measure**

This management measure is to be applied to marinas where boat topsides are cleaned and hull scrubbing takes place in the water, which has been shown to result in water quality problems. The objective is to minimize the release of harmful cleaners, solvents, and paint into surface waters.

#### **Enforceable policies:**

*Coastal Zone:*

There are no enforceable policies applicable to this management measure other than the State and Local Coastal Resources Management Act regulations described in the Solid Waste Management Measure section.<sup>135</sup> It is doubtful that those regulations would apply to individual acts of boat cleaning. If, however, the activity was concentrated in an area such that it had a direct and significant impact on coastal waters, the regulations would appear to provide enforceable policies through conditions on coastal use permits for new or expanding marinas. If concentrated operations could be considered waste disposal activities, then such activities at existing marinas might also be regulated.

*Statewide:*

The Louisiana Water Control Law prohibits the discharge of any substance into the waters of this state without a required permit or license. Solvents, cleaners, and paints would qualify

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<sup>135</sup>La. Admin. Code tit. 43 § 1.701G(3) and (13), 709D, 7111M, and 715.

<sup>136</sup>La. Rev. Stat. Ann. 30 § 2075.

as substances requiring permits.<sup>137</sup> However, there has not been any direct enforcement against individual boat cleaners.<sup>138</sup> If, however, a marina has a large concentrated amount of cleaning activities, this would effect water quality, and could result in the marina having to obtain and comply with a water quality permit.

### **Public Education Management Measure**

The objective of this management measure is to establish public education programs for boaters and marina owners and operators to prevent improper disposal of polluting materials.

#### **Enforceable policies:**

##### *Coastal Zone:*

There are no enforceable policies applicable to this management measure.

##### *Statewide:*

There are no enforceable policies applicable to this management measure.

### **Maintenance of Sewage Facilities Management Measure**

The objective of this management measure is to ensure that sewage pumpout facilities are maintained in operational condition and to encourage their use.

#### **Enforceable policies:**

##### *Coastal Zone:*

The State and Local Coastal Resources Management Act regulates the construction of waste disposal facilities and has required marinas to install pump out stations as conditions of coastal use permits.<sup>139</sup> The Coastal Management Division also operates under a memorandum of understanding with the Department of Health and Hospitals regarding sanitation in the coastal zone

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<sup>137</sup>La Rev. Stat. Ann. 30 § 2075.

<sup>138</sup>Personal communication with Jan Boynston, DEQ, 3/11/94.

Impersonal communication with Rocky Hinds, DNR, 2/23/94; La Admin.

under the State Sanitary Code which applies statewide. A person must obtain a permit directing proper construction; however, maintenance of facilities is not regulated by the coastal use permit program.<sup>140</sup>

*Statewide:*

The Louisiana Water Control Law prohibits discharge within Louisiana of any sewage or sewage sludge in contravention of any rules or regulations adopted pursuant to the Water Control Law.<sup>141</sup> Sewage facilities require water quality permits under the Louisiana Water Control Law if they result in the discharge of any substance into the state waters. Presumably, the permit specifies that the sanitation facility be kept in proper working order. Additionally, the Louisiana State Sanitary Code imposes requirements for sewage systems and plumbing systems that include the authority for ongoing inspections of such systems to ensure compliance.<sup>142</sup>

**Boat Operation Management Measure** (applies to boating only)

The objective of this management measure is to restrict boating activities where necessary to decrease turbidity and physical destruction of shallow-water habitat.

*Enforceable Policies:*

*Coastal Zone:*

There are no enforceable policies applicable to this management measure other than those applicable to reserves and sanctuaries which might limit boat traffic. However, many shallow water bodies in Louisiana are ostensibly privately owned and individual property owners can prohibit or limit boat traffic through such waters.

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<sup>140</sup>La. Admin. Code tit. 43 § 1.715(D).

<sup>141</sup>La. Rev. Stat. Ann. 30 § 2076.

<sup>142</sup>Louisiana State Sanitary Code, Chapters 13 and 14.

*Statewide:*

Louisiana law prohibits operation of a watercraft within an area which has been clearly marked, in accordance with the laws of the state, by buoys or some other distinguishing device as a restricted area. A violation will result in a misdemeanor and shall be subject to a fine of not less than twenty-five and no more than one hundred and fifty dollars.<sup>143</sup> However, the designation of such areas does not appear to be guided by any established policy.

**MANAGEMENT MEASURES FOR HYDROMODIFICATION: CHANNELIZATION AND CHANNEL MODIFICATION, DAMS, AND STREAMBANK AND SHORELINE EROSION**

**I. Channelization and Channel Modification Management Measures**

**Management Measure for Physical and Chemical Characteristics of Surface Waters**

The objective of this management measure is to ensure that the planning process for new hydromodification projects addresses changes to physical and chemical characteristics of surface waters that may occur as a result of the proposed work.

**Enforceable Policies:**

*Coastal Zone:*

Under Louisiana's State and Local Coastal Resources Management Act, channelization activities require coastal use permits subject to the coastal management regulations. The regulations mandate that channelization projects consider and avoid, to the maximum extent practicable, adverse impacts to coastal waters from: low dissolved oxygen, temperature, and salinity, suspended solids, hydrologic and sediment transport disruption in organic nutrient compounds, erosion, and changes in water flow and circulation.

*Statewide:*

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<sup>143</sup>La. Rev. Stat. Ann. 34 § 851.31.

Under Louisiana's Water Control Law, a water quality permit would be required if any activity altered the physical, chemical, or biological properties of any waters of the state.<sup>144</sup> However, a permit would not be required if the discharge was dredge or fill materials resulting from activities that are permitted by the U.S. Army Corps of Engineers, such as channel dredging and construction.<sup>145</sup> Hydromodification activities are a prime example of nonpoint pollution sources that could be subject to the state's §401 water quality certification authority under which some management measures described herein could be implemented. State water quality certification under §401 of the Clean Water Act gives a state authority to approve or disapprove of projects performed under federal license or permit based on whether the project is consistent with state water quality standards. The state water quality standards require consideration of the physical and chemical characteristics of the affected waters as well as circular patterns. Most channelization projects would require a federal permit and therefore be subject to water quality certification. The state of Louisiana has not yet used its full authority in this area.<sup>146</sup>

Also, under the Natural and Scenic Rivers System, any waterway that has been designated a natural and scenic river is protected from any channelization, clearing and snagging, channel realignment and reservoir construction.<sup>147</sup>

#### **Instream and Riparian Habitat Restoration Management Measure**

The objective of this management measure is to correct or prevent detrimental changes to instream and riparian habitat from the impacts of channelization and channel modification projects.

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<sup>144</sup>La. Admin. Code tit. 33 § 1X.301(A).

<sup>145</sup>La. Admin. Code tit. 33 § 1X.301(D).

<sup>146</sup>La. Rev. Stat. Ann. 30 § 2074(3); La. Admin. Code tit. 33 § 1X.1101-1119, 1 501-1507.

<sup>147</sup>La. Rev. Stat. Ann. 56 § 1853.

*Enforceable Policies:*

*Coastal Zone:*

This management measure is enforceable under the same provisions of the Louisiana State and Local Coastal Resources Management Act as the previous measure.

*Statewide:*

This management measure is enforceable under the same provisions as the previous measure.

***II. Dams Management Measures***

**Management Measure for Erosion and Sediment Control**

The objective of this management measure is to prevent sediment from entering surface waters during the construction and maintenance of dams.

*Enforceable Policies:*

*Coastal Zone:*

The Louisiana State and Local Coastal Resources Management Act regulates dams or any controlled diversion of waters.<sup>148</sup> The coastal management regulations require that all activities, to the maximum extent practicable, avoid erosion and land loss, detrimental discharges of suspended solids, and detrimental changes in sediment transport processes.<sup>149</sup> They also require that levees be designed, built, operated, and maintained using the best practical techniques to minimize disruptions of existing hydrological patterns, which could occur due to erosion.<sup>150</sup>

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<sup>148</sup>La. Rev. Stat. Ann. 49 § 214.25.

<sup>149</sup>La. Admin. Code tit. 43 § 1.701 G 9, 11, 19.

<sup>150</sup>La. Admin. Code tit. 43 § 1.703 F.

*Statewide:*

The Department of Public Works is in charge of the administrative functions in relation to the planning, design, survey and construction, operation, maintenance and repair of dams, locks, spillways and reservoirs.<sup>151</sup> Any project affecting wetlands and other wildlife habitat will require the Department of Public Works to confer with the Louisiana Wildlife and Fisheries Commission.<sup>152</sup> The requirement of coordination between the Department of Public Works and the Department of Wildlife and Fisheries (DWF) through the Wildlife and Fisheries Commission does not confer veto power to DWF unless on lands administered by DWF or on natural and scenic rivers (see below). In reality, however, if federal money is involved strong consideration of DWF comments is required by the Fish and Wildlife Coordination Act.<sup>153</sup> This authority would appear to provide enforceable policies for some of the management measures described in this section. All dams both federal and non-federal are under the jurisdiction of the state acting through the chief engineer of the Department of Transportation and Development. Construction or modification of any dam requires a permit from the chief engineer. The chief engineer has the authority to adopt rules and regulations in order to establish standards for the construction, modification, operation, and maintenance of dams.<sup>155</sup> The regulations promulgated thus far have only addressed engineering specifications and not environmental concerns.

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<sup>151</sup>La. Rev. Stat. Ann. 38 § 2.

<sup>152</sup>La. Rev. Stat. Ann. 38 § 18.

<sup>153</sup>La. Rev. Stat. Ann. 38 § 18.

<sup>154</sup>La. Rev. Stat. Ann. 38 § 23.

<sup>155</sup>La. Rev. Stat. Ann. 38 § 24.

<sup>156</sup>Personal communication with Eddie Olivier, DOTD, 2/28/94.

Also, under the Natural and Scenic Rivers System, activities such as reservoir construction are prohibited in all waters designated as Natural and Scenic Rivers.<sup>157</sup>

### **Management Measure for Chemical and Pollutant Control**

The objective of this management measure is to prevent downstream contamination from pollutants associated with dam construction activities.

#### **Enforceable Policies:**

##### *Coastal Zone:*

The State and Local Resources Management Act has provisions applicable to chemical and pollutant control which require avoidance, to the maximum extent practicable, of detrimental discharges of inorganic nutrient compounds, pathogens, or toxic substances into coastal waters. Additionally, the general regulations concerning the disposal of waste could provide some enforceable policies for this management measure.<sup>159</sup>

##### *Statewide:*

The enforceable policies described in the Urban Runoff Construction Site Chemical Control Management Measure are also applicable to dam construction.

### **Management Measure for Protection of Surface Water Quality and Instream and Riparian Habitat**

The objective of this management measure is to protect the quality of surface waters and aquatic habitat in reservoirs and in the downstream portions of rivers and streams that are influenced by the releases from reservoir impoundments. This management measure is particularly concerned with dissolved oxygen, erosion, pollution, and fish passage.

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<sup>157</sup>La. Rev. Stat. Ann. 56 § 1845.

<sup>158</sup>La. Admin. Code tit. 43 § 1.701 G 3 and 13.

<sup>159</sup>La. Admin. Code tit. 43 § 715.

*Enforceable Policies:*

*Coastal Zone:*

The Louisiana State and Local Coastal Resource Management Act's regulations state that permitted activities in the coastal zone will be planned, sited, designed, constructed, operated, and maintained to avoid, to the maximum extent practicable, destruction or adverse alterations of streams, wetlands, tidal passes, inshore waters, and waterbottoms, beaches, dunes, barrier islands, and other natural biologically valuable areas or protective coastal features.<sup>160</sup>

*Statewide:*

The management measures described in this section would appear to be enforceable under the provisions set out in the Management Measure for Erosion and Sediment Control under the Dam Management Measure. Also, the Department of Public Works may approve the building of fish ladders in all lakes where dam construction has resulted in a need for assistance to fish to reach propagating places.<sup>161</sup>

***III. Streambank and Shoreline Erosion Management Measure***

**Management Measure for Eroding Streambanks and Shorelines**

The objective of this management measure is to minimize coastal erosion through techniques such as, marsh creation, vegetative bank stabilization, beach nourishment, and coastal structures.

*Enforceable Policies:*

*Coastal Zone:*

Under the guidelines of the Louisiana State and Local Coastal Resources Management Act, any activities requiring a permit must consider the effects of the activity on land loss, erosion and

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<sup>160</sup>La. Admin. Code tit. 43 § 1.701(6).

<sup>161</sup>La. Rev. Stat. Ann. 56 § 315.1.

subsidence and to avoid these adverse effects to the maximum extent practicable.<sup>162</sup> In areas of special concern such as beaches, barrier islands, shell deposits, salt dome formations containing oil, gas, or minerals, and areas subject to subsidence, salt water intrusion, or the like, the secretary of the Department of Natural Resources is required to identify and designate such areas and establish guidelines or priorities of uses in those areas. The secretary is also required to propose a fresh water diversion plan to offset and reverse coastal wetland loss and index coastal areas which are undergoing rapid change or are otherwise considered critical, and to undertake a pilot program creating artificial barrier islands to determine the effectiveness of these islands in controlling shoreline erosion.<sup>163</sup> The Louisiana Wetlands Conservation and Restoration Authority is charged with developing a comprehensive policy to address the conservation and restoration of coastal wetlands through the construction and management of coastal vegetated wetlands enhancement projects.<sup>164</sup> The Authority submits to legislative committees for their approval, plans which spell out the state's overall strategy for conserving and restoring coastal wetlands. Such plans are funded through the Division of Coastal Restoration of the Department of Natural Resources with money generated from mineral resources.<sup>165</sup> The authority described in this section provides enforceable policies for some of the management measures for eroding streambanks and shorelines.

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<sup>162</sup>La. Admin. Code tit. 43 § 1.701(G).

<sup>163</sup>La. Rev. Stat. Ann. 49 § 214.29.

<sup>164</sup>La. Rev. Stat. Ann. 49 § 214.4.

<sup>165</sup>La. Rev. Stat. Ann. 49 § 214.7.

*Statewide:*

There are no statewide enforceable regulations mandating erosion control policies other than the authority of the chief engineer described the section on Management Measures for Erosion and Sediment Control for dams.

**MANAGEMENT MEASURES FOR WETLANDS, RIPARIAN AREAS, AND VEGETATED TREATMENT SYSTEMS**

**Management Measure for Protection of Wetlands and Riparian Areas**

The purpose of this management measure is to protect wetland and riparian areas which are serving a significant nonpoint source pollution abatement function from adverse effects, and to continue this function while protecting other existing functions of these areas. The characteristics to be measured are the vegetative compositions and cover, hydrology of surface and ground water, geochemistry of the substance, and species composition.

*Enforceable policies:*

*Coastal Zone:*

The State and Local Coastal Resources Management Act of 1978 applies directly to this management measure and provides an extensive basis for enforceable policies.

*Statewide:*

The Louisiana Scenic Rivers Act provides some regulation for rivers designated as scenic rivers. If a riparian area is within a scenic river designation, the secretary of the Louisiana Department of Wildlife and Fisheries has the authority to regulate those activities which may directly and significantly degrade the ecological integrity of a natural and scenic river.<sup>167</sup> The statute regulates the cutting of timber within 100 feet of the ordinary low water mark of a natural

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<sup>166</sup>La. Rev. Stat. Ann. 49 § 214.21-214.41.

<sup>167</sup>La. Rev. Stat. Ann. 56 § 1841 et seq.

or scenic river. However, it appears to be a relatively easy matter for landowners to have rivers or sections of them removed from scenic river designations.<sup>168</sup>

### **Management Measure for Restoration of Wetland and Riparian Areas**

The purpose of this management measure is to promote the restoration of the preexisting functions in damaged and destroyed wetlands in areas where the systems will serve a significant nonpoint source pollution abatement function.

#### **Enforceable policies:**

##### *Coastal Zone:*

The State of Louisiana regulates and coordinates plans for conservation and restoration of coastal wetlands under the Louisiana Coastal Wetlands Conservation and Restoration Act<sup>169</sup> and regulates activities which affect wetlands under the State and Local Coastal Resources Management Act (SLCRMA) as discussed in the previous section. The SLCRMA provides the authority to require mitigation for wetlands losses and the Coastal Management Division is currently developing mitigation regulations.<sup>170</sup>

##### *Statewide:*

There are no statewide laws or regulations affecting this management measure except that a riparian area may be within an area designated as a natural and scenic river. The Natural and Scenic River System requires owners or lessees of riparian areas where timber has been cut to remove all tree tops from the area if cutting has been done within 100 feet of the low water mark.<sup>171</sup>

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<sup>168</sup>La. Rev. Stat. Ann. 56 § 1846(28) as amended by Act 109.

<sup>169</sup>La. Rev. Stat. Ann. 49 § 214.1-214.5.

<sup>170</sup>La. Rev. Stat. Ann. 49 § 241.41.

<sup>171</sup>La. Rev. Stat. Ann. 56 § 1854(B).

### **Management Measure for Vegetated Treatment Systems**

The purpose of this management measure is to promote the use of engineered vegetated treatment systems such as constructed wetlands or vegetated filter strips where these systems serve a significant nonpoint source pollution abatement function.

#### **Enforceable Policies:**

Though Louisiana does regulate and monitor some point source discharge into aquaculture treatment areas, no regulations exist within the coastal zone nor statewide to regulate vegetated filter strips for nonpoint source discharge.

